STEREO PARAMETRIC EQUALIZER

GE-1001

SERVICE MANUAL

KENWOOD

3954

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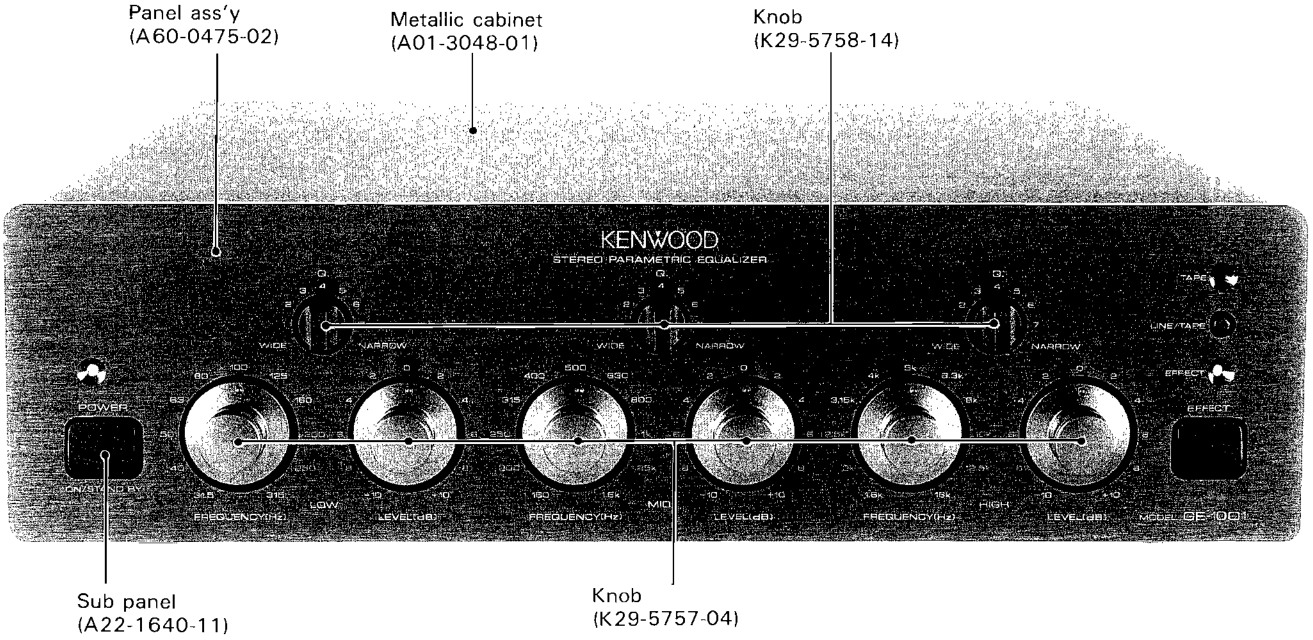
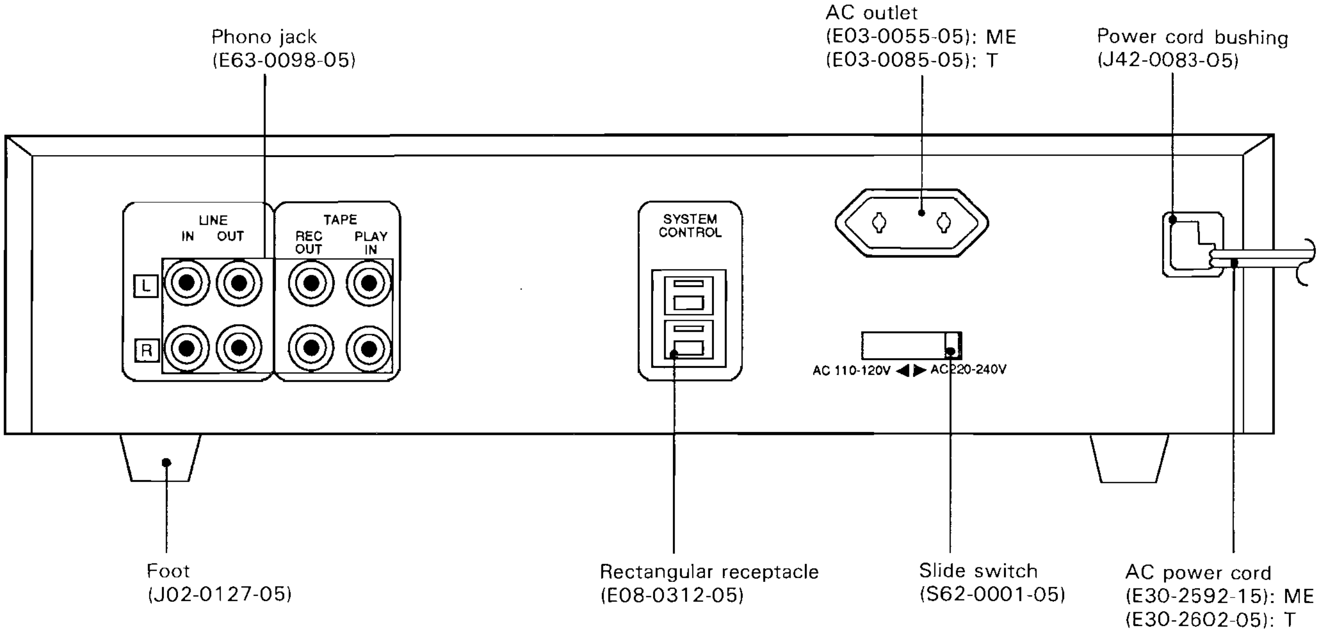
B51-4763-00 (S) 2335


Panel ass'y
(A60-0475-02)
Metallic cabinet
(A01-3048-01)
Knob
(K29-5758-14)
KENWOOD
STEREO PARAMETRIC EQUALIZER
Q
WIDE
NARROW
TAPE
LINE/TAPE
EFFECT
POWER
ON/STAND BY
FREQUENCY(Hz)
LEVEL(dB)
LOW
MID
HIGH
MODEL GE-1001
Sub panel
(A22-1640-11)
Knob
(K29-5757-04)


Phono jack
(E63-0098-05)
AC outlet
(E03-0055-05): ME
(E03-0085-05): T
Power cord bushing
(J42-0083-05)
LINE
IN
OUT
TAPE
REC OUT
PLAY IN
L
R
SYSTEM CONTROL
AC 110-120V ◀ ▶ AC220-240V
Foot
(J02-0127-05)
Rectangular receptacle
(E08-0312-05)
Slide switch
(S62-0001-05)
AC power cord
(E30-2592-15): ME
(E30-2602-05): T

*Refer to parts list on page 20.

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System HD-1000

Amplifier	CD Player	Cassette Deck	Tuner	Speaker
A-1001	DP-1001	X-1001	T-1001/L	LS-300G

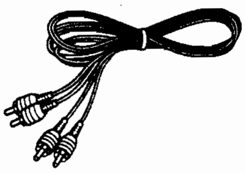
Option

Equalizer
GE-1001

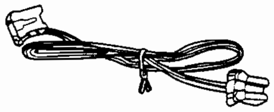
ACCESSORIES

Check that the following accessories are present.

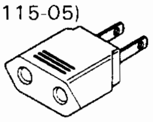
Audio cord 2
(E30-2600-05)



System control cord 1
(E30-2628-05)



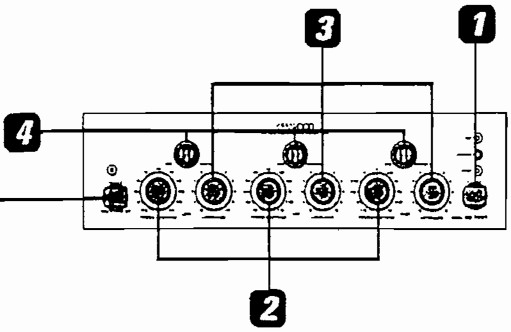
AC plug adaptor 1
(Except for some areas)
(E03-0115-05)



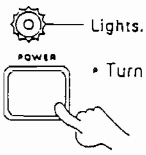
For the unit with a European AC plug in areas other than Europe

Creation of desired tone

This unit allows to create a equalizing curve centered around a certain frequency in each of the low-frequency (LOW), middle-frequency (MID) and high-frequency (HIGH) bands. The slope of each equalizing curve can be selected in the range from gently curve (WIDE) to sharp curve (NARROW).

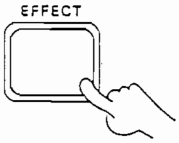


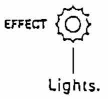
Make preparation.



- Turn the power ON.

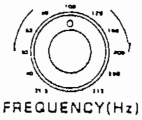
1 *Switch the equalizer ON.*

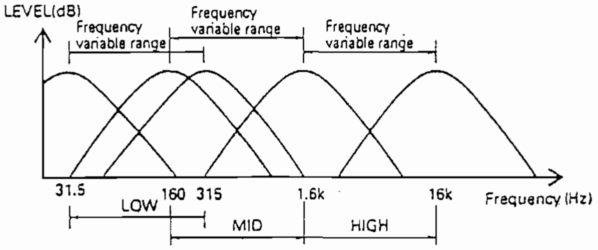




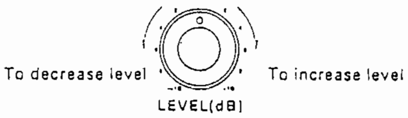
- Press so that the EFFECT indicator lights.

2 *Select the frequency band to be adjusted.*

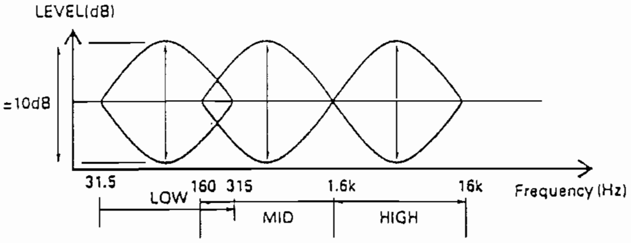




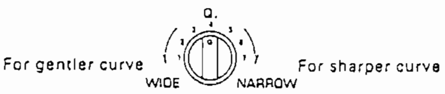
3 *Adjust the level of the frequency band.*



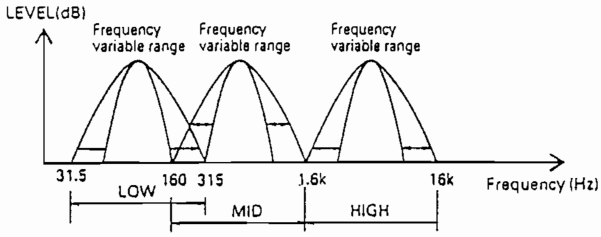
The level of each frequency band can be set in the range between -10 dB and +10 dB.



4 *Adjust the slope of the equalizing curve.*



The slope can be set in 7 steps between WIDE (gentle curve) and NARROW (sharp curve).



Repeat steps 2, 3 and 4 above for each of the frequency bands (LOW, MID, HIGH).

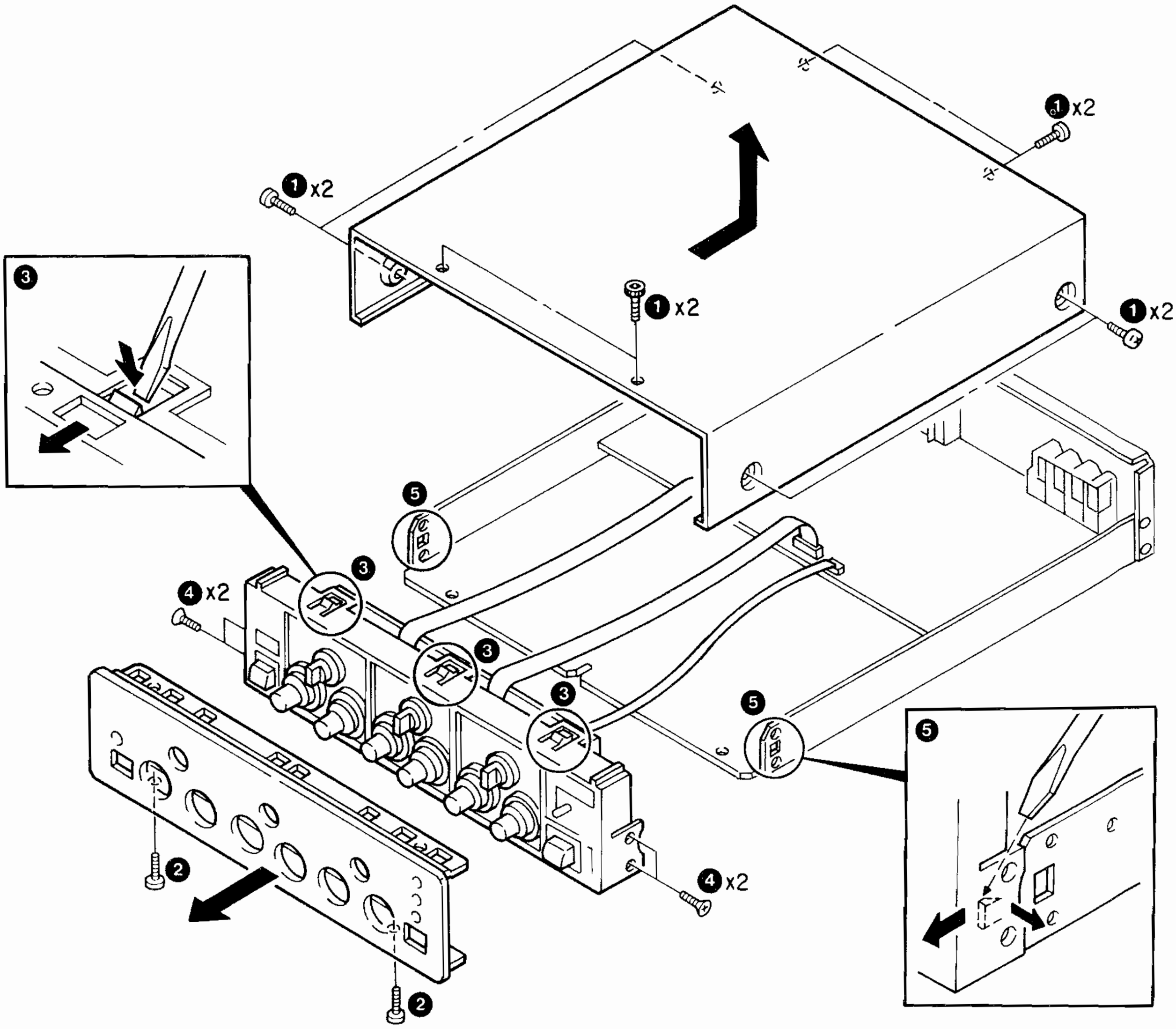
As the frequency, level and Q can be selected independently, it is possible to enhance a specific frequency (musical instrument) by adjusting the Q to NARROW or to provide a curve without curve on any specific frequency by adjusting the Q to WIDE. Please try adjustments according to your liking.

Notes

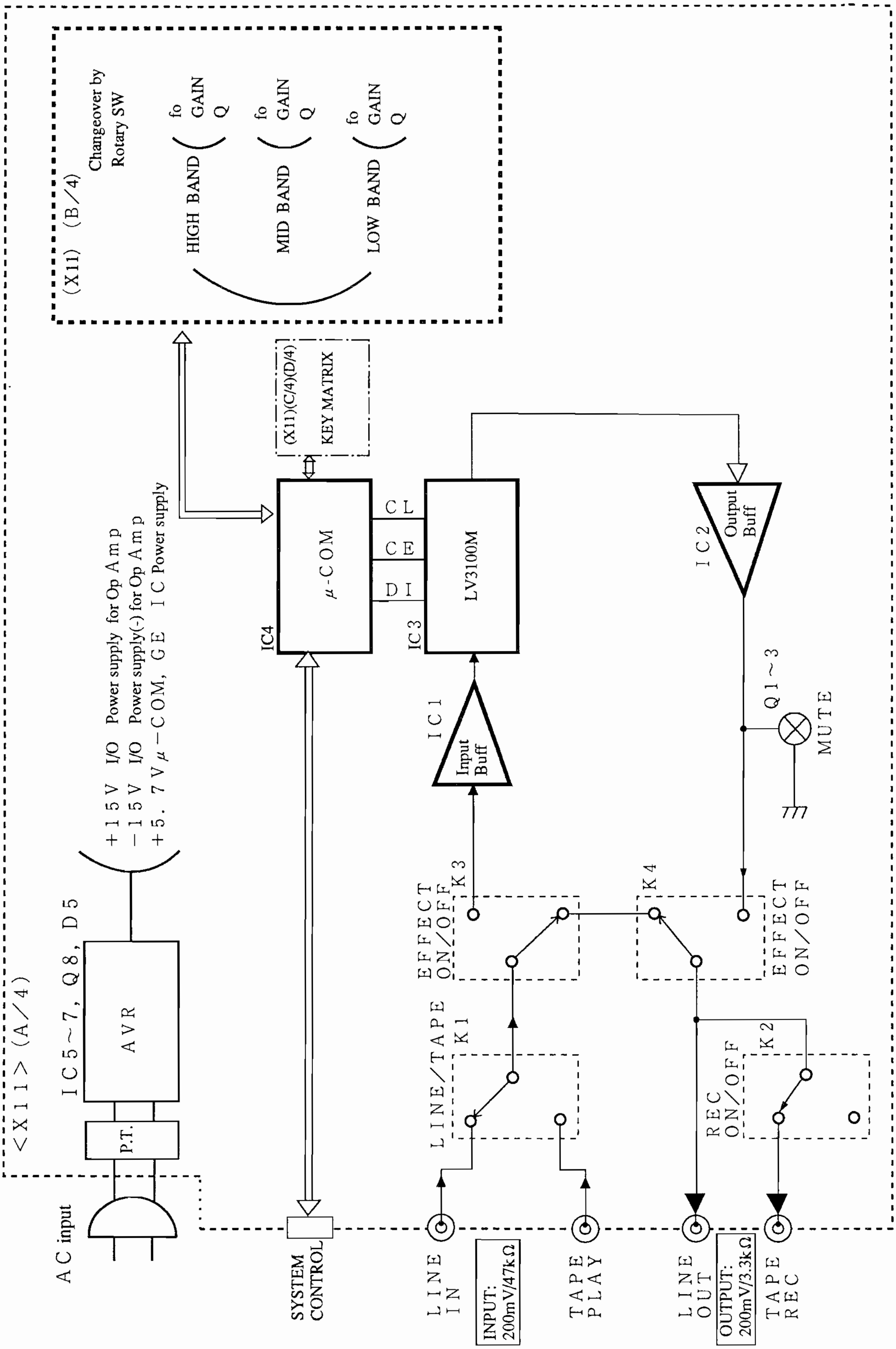
1. Do not perform the equalizer adjustment (or equalizer ON → OFF) during recording level adjustment (CCRS operation) or during recording, for this may make the recorded sound low or distorted.
2. Since this system uses microcomputers, they may not operate normally due to interfering noise, etc. In such a case, unplug the power cord from the power outlet and, insert the power cord into the power outlet again.
3. Do not use contact cleaners because it could cause a malfunction. Be specially careful against contact cleaners containing oil, for they may deform the plastic components.

DISASSEMBLY FOR REPAIR

①Remove the 8 screws (❶), and remove the case.
②Remove the 2 screws (❷), and draw out the front cover by pushing the 3 tabs (❸) by screwdriver or equipment.
③Remove the 4 screws (❹).
④Pull out the sub panel assy by pushing 2 screws (❺) by screwdriver or equipment.


❶x2
❶x2
❶x2
❶x2
❸
❺
❸
❹x2
❸
❸
❺
❺
❷
❹x2
❷

BLOCK DIAGRAM


(X11) (B/4)
Changeover by Rotary SW
HIGH BAND
fo
GAIN
Q
MID BAND
fo
GAIN
Q
LOW BAND
fo
GAIN
Q
(X11)(C/4)(D/4)
KEY MATRIX
IC4
µ-COM
CL
CE
DI
IC3
LV3100M
IC2
Output Buff
IC1
Input Buff
Q1~3
MUTE
<X11> (A/4)
IC5~7, Q8, D5
AVR
P.T.
+15V I/O Power supply for Op Amp
-15V I/O Power supply(-) for Op Amp
+5.7V µ-COM, GE IC Power supply
EFFECT ON/OFF
K3
K4
EFFECT ON/OFF
LINE/TAPE
K1
REC ON/OFF
K2
AC input
SYSTEM CONTROL
LINE IN
INPUT: 200mV/47kΩ
TAPE PLAY
LINE OUT
OUTPUT: 200mV/3.3kΩ
TAPE REC

CIRCUIT DESCRIPTION

GE μ-COM: μPD75104CW-292 (X11: IC4)

1. Initial Settings

Power:	Off
EQ on/off:	Off
Selector:	Line
q status:	SW status of each band at that time
Gain status:	SW status of each band at that time
Central frequency status:	SW status of each band at that time

2. TEST MODE

«Test mode using main unit keys»

(1) Setting method

While pressing the POWER key, plug the power cord into an AC outlet.

(2) Releasing method

The test mode is released and the initial values restored by pulling the power plug from the AC outlet.

(3) Contents

① Auto POWER ON

When the power cord is plugged into an AC outlet while pressing the POWER key, the unit always enters the POWER ON state, with all functions at their initial settings.

At this time, in the EFFECT mode, the setting level is FLAT.

② All Light up Mode

When the power cord is plugged into an AC outlet while pressing the POWER key, all the LEDs always illuminate. At this time, the LEDs enter the test mode display mode when one of the main unit keys is operated.

③ Level Variable

Pressing the EFFECT key changes the level through three stages according to the following cycle:

→ FLAT (0 dB) → MAX (10 dB) → OFF → MINI (– 10 dB) →

However, when OFF the inside is bypassed, with the level setting remaining the same. The display is as shown below. Accordingly, it is different from each LED's usual display.

Status	TAPE LED	EFFECT LED
FLAT	on	on
MAX	off	on
MINI	on	off
OFF	off	off

Note: During this test mode, there is no input to any of the rotary switches, and the switch board is set to high impedance.

«Test mode using serial communications»

(1) Setting method

Plug the power cord into an AC outlet and input the TEST ON code (C3FFH).

(2) Release method

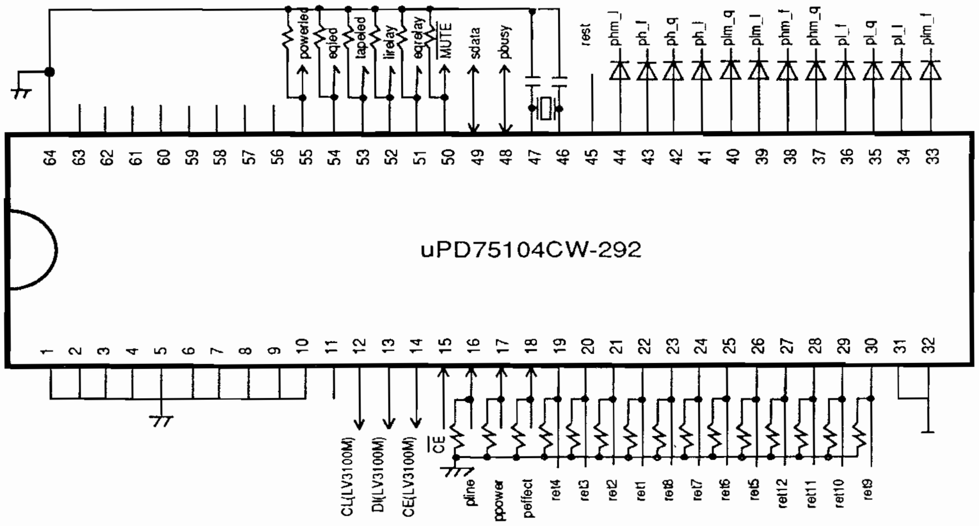
Input the TEST OFF code (C3FEH). Then pull the plug from the AC outlet.

(3) Contents

Press the input code shown next page to confirm the functions.

Note: During this test mode, there is no input to any of the rotary switches. Also, there is no muting when switching.

Port Layout


uPD75104CW-292
64 63 62 61 60 59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
powerled
eqled
lapeled
lirelay
eqrelay
MUTE
sdata
pbusy
rest
phm_l
ph_f
ph_q
ph_l
plm_q
plm_l
phm_f
phm_q
pl_f
pl_q
pl_l
plm_f
CL(LV3100M)
DI(LV3100M)
CE(LV3100M)
CE
pline
ppower
peffect
ret4
ret3
ret2
ret1
ret8
ret7
ret6
ret5
ret12
ret11
ret10
ret9

CIRCUIT DESCRIPTION

16 bit SERIAL TESTCODE (C 3 X X H)

TYPE / FUNC	SURROUND 0	1	2	3	4	5	6	7	GE 8	9	A	B	C	D	E	F
0	POWER OFF	REAR MUTE ON	ASFC MAX	ACOUSTIC BGM	PRESENCE GAME				▨ POWER OFF							
1	POWER ON	MUTE ALL OFF	SEAT POS MIN	CINEMA SCREEN OFF	PRESENCE KARAOKE				▨ POWER ON							
2	BYPASS/ OFF	CENTER LEVEL MIN	SEAT POS CEN	CINEMA SCREEN 1	F.2ch				▨ MUTE OFF							
3	DOLBY SURROUND NORMAL/WID	CENTER LEVEL CEN	SEAT POS MAX	CINEMA SCREEN 2	DOLBY SURROUND (PHANTOM)				▨ MUTE ON							
4	DOLBY 3 STEREO	CENTER LEVEL MAX	WALL MIN	CINEMA SCREEN 3					▨ EQ OFF							
5	DSP	REAR LEVEL MIN	WALL CEN	CH MODE 2ch					▨ EQ ON							
6	DSP LOGIC	REAR LEVEL CEN	WALL MAX	CH MODE 3ch					▨ M1 (ALL CEN)							
7	S.4ch	REAR LEVEL MAX	ROOM SIZE MIN	CH MODE 4ch					▨ M2 (ALL MAX)							
8	F.4ch	DELAY TIME MIN	ROOM SIZE CEN	CH MODE 5ch					▨ M3 (ALL MIN)							
9	CENTER MODE NORMAL	DELAY TIME CEN	ROOM SIZE MAX	DSP THRU					EEPROM TEST							
A	CENTER MODE WIDE	DELAY TIME MAX	STEREO (KARAOKE)	PRESENCE ARENA					EEPROM TEST OK							
B	CENTER MODE PHANTOM	PRESENCE (EFFECT) LEVEL MIN	MULTI (KARAOKE)	PRESENCE JAZZ CLUB				ALL LIGHT OFF	EEPROM TEST NG							▨ ALL LIGHT OFF
C	TEST TONE OFF	PRESENCE (EFFECT) LEVEL CEN	HiFi MULTI (KARAOKE)	PRESENCE STADIUM				ALL LIGHT ON	▨ LINE ON							▨ ALL LIGHT ON
D	TEST TONE ON	PRESENCE (EFFECT) LEVEL MAX	NORMAL (KARAOKE)	PRESENCE DISCO THEQUE				SURROUND INITIAL	▨ TAPE ON							▨ GE INITIAL
E	FRONT MUTE ON	ASFC MIN	ACOUSTIC NON DIRE1	PRESENCE CHURCH				SURROUND SERIAL TEST OFF								▨ GE SERIAL TEST OFF
F	CENTER MUTE ON	ASFC CEN	ACOUSTIC NON DIRE2	PRESENCE MOVIE				SURROUND SERIAL TEST ON								▨ GE SERIAL TEST ON

☐ : TRANSMMITER CODE ▨ : RECEIVER CODE

CIRCUIT DESCRIPTION

3. Description of pin function

PIN	PIN NAME	I/O	NAME	DESCRIPTION
1	—	I	P13 INT3	Unused terminal (connected to Vss)
2	—	I	P12 INT2	Unused terminal (connected to Vss)
3	—	I	P11 INT1	Unused terminal (connected to Vss)
4	—	I	P10 INT0	Unused terminal (connected to Vss)
5	—	I	PTH03	Unused terminal (connected to Vss)
6	—	I	PTH02	Unused terminal (connected to Vss)
7	—	I	PTH01	Unused terminal (connected to Vss)
8	—	I	PTH00	Unused terminal (connected to Vss)
9	—	I	TI0	Unused terminal (connected to Vss)
10	—	I	TI1	Unused terminal (connected to Vss)
11	—	O	P23	Unused terminal (open)
12	CL LV3100M	O	P22 PCL	LV3100M clock terminal
13	DI LV3100M	O	P21 PTO1	LV3100M data terminal
14	CE LV3100M	O	P20 PTO0	LV3100M strobe terminal
15	$\overline{\text{CE}}$	I	P03 SI	Backup detect terminal
16	PTAPE	I	P02 SO	Selector TACT SW input terminal
17	PPOWER	I	P01 SCK	Power TACT SW input terminal
18	PEFFECT	I	P00 INT4	Effect TACT SW input terminal
19	RET4	I	P123	Rotary SW return 4
20	RET3	I	P122	Rotary SW return 3
21	RET2	I	P121	Rotary SW return 2
22	RET1	I	P120	Rotary SW return 1
23	RET8	I	P133	Rotary SW return 8
24	RET7	I	P132	Rotary SW return 7
25	RET6	I	P131	Rotary SW return 6
26	RET5	I	P130	Rotary SW return 5
27	—	I	P143	Unused terminal (connected to Vss)
28	RET11	I	P142	Rotary SW return 11
29	RET10	I	P141	Rotary SW return 10
30	RET9	I	P140	Rotary SW return 9
31	—	—	NC	Nonconnect (Connected to Vdd)
32	—	—	Vdd	+5V application terminal

PIN	PIN NAME	I/O	NAME	DESCRIPTION
33	PLM F	O	P33	LOW MID band "F" scan
34	PL L	O	P32	LOW band "L" scan
35	PL Q	O	P31	LOW band "Q" scan
36	PL F	O	P30	LOW band "L" scan
37	PHM Q	O	P43	HIGH MID band "Q" scan
38	PHM F	O	P42	HIGH MID band "F" scan
39	PLM L	O	P41	LOW MID band "L" scan
40	PLM Q	O	P40	LOW MID band "Q" scan
41	PH L	O	P53	HIGH band "F" scan
42	PH Q	O	P52	HIGH band "Q" scan
43	PH L	O	P51	HIGH band "L" scan
44	PHM L	O	P50	HIGH MID band "L" scan
45	—	—	RESET	Reset terminal
46	—	—	X2	Oscillator (4.19 MHz)
47	—	—	X1	Oscillator
48	PBUSY	I/O	P63	Serial communications busy terminal
49	SDATA	I/O	P62	Serial communications data terminal
50	$\overline{\text{MUTE}}$	O	P61	Mute terminal
51	EQRELAY	O	P60	Effect relay (ON = "H", OFF = "L")
52	LIRELAY	O	P73	Selector relay (TAPE = "H", LINE = "L")
53	TAPELED	O	P72	Selector LED (TAPE = "H", LINE = "L")
54	EQLED	O	P71	Effect LED (ON = "H", OFF = "L")
55	POWERLED	O	P70	Power LED (ON = "H", OFF = "L")
56	—	O	P83	Unused terminal (open)
57	—	O	P82	Unused terminal (open)
58	—	O	P81	Unused terminal (open)
59	—	O	P80	Unused terminal (open)
60	—	O	P93	Unused terminal (open)
61	—	O	P92	Unused terminal (open)
62	—	O	P91	Unused terminal (open)
63	—	O	P90	Unused terminal (open)
64	—	—	Vss	GND terminal

PARAMETRIC EQUALIZER SYSTEM LV3100M (X11: IC3)

The LV3100M is a parametric equalizer. Parametric equalizers are highly effective all-around equalizers, providing independent control of the center frequencies, gain and Q, which are the three elements that determine equalizer characteristics.

Functions

- Parametric equalization of four bands (low, low-mid, high-mid, high) in the left and right channels.
- For each band - Center frequencies:
  11 positions
  Gaine: ±2 dB steps, 13 positions
  Q: 8 positions, variable
- Control of center frequencies, gain and Q is done by serial data input (C^2B).*

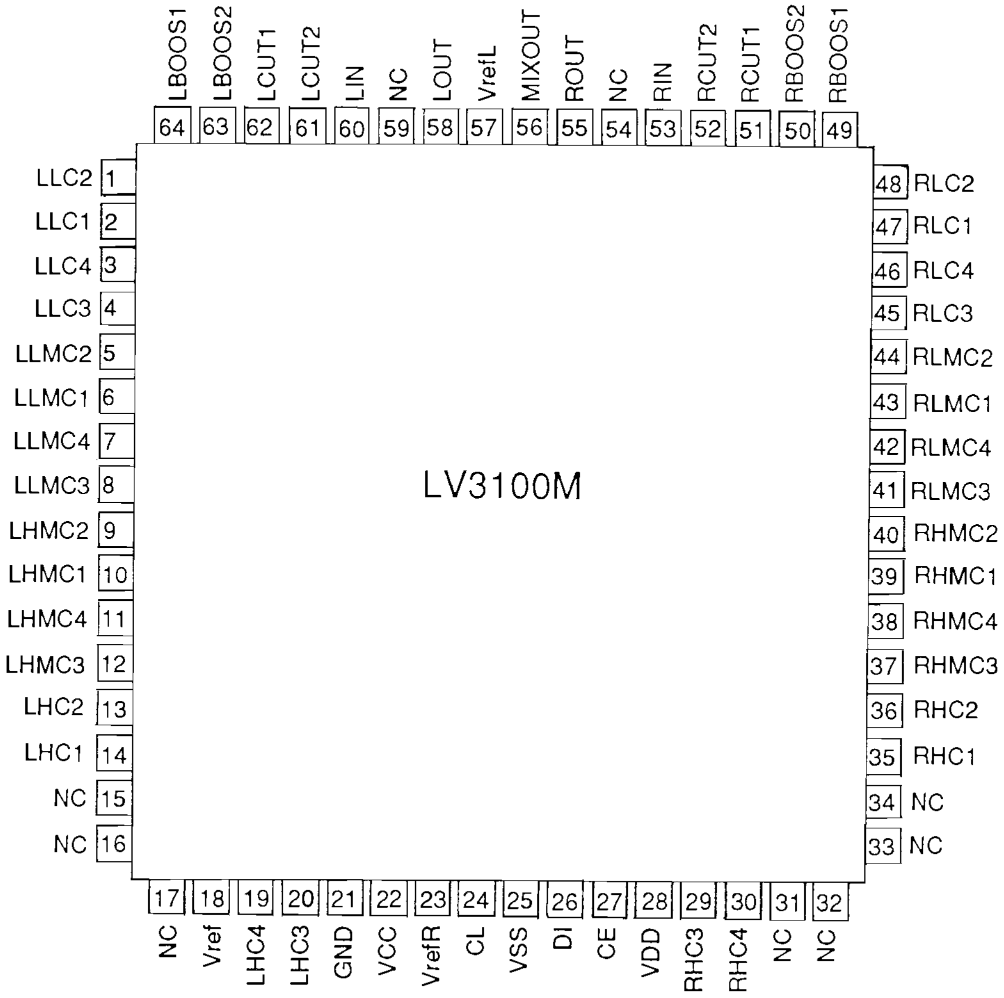
Characteristics

A parametric equalizer system with the following characteristics can be made using two chips (this one and a controller).

(1) One-touch variation of center frequency, gain and Q.
(2) Presetting enables one-touch memory recall.
(3) Bi-CMOS process eliminates external mounting of active elements.
(4) Selection of either shelving or peaking for the L (low) and H (high) bands.

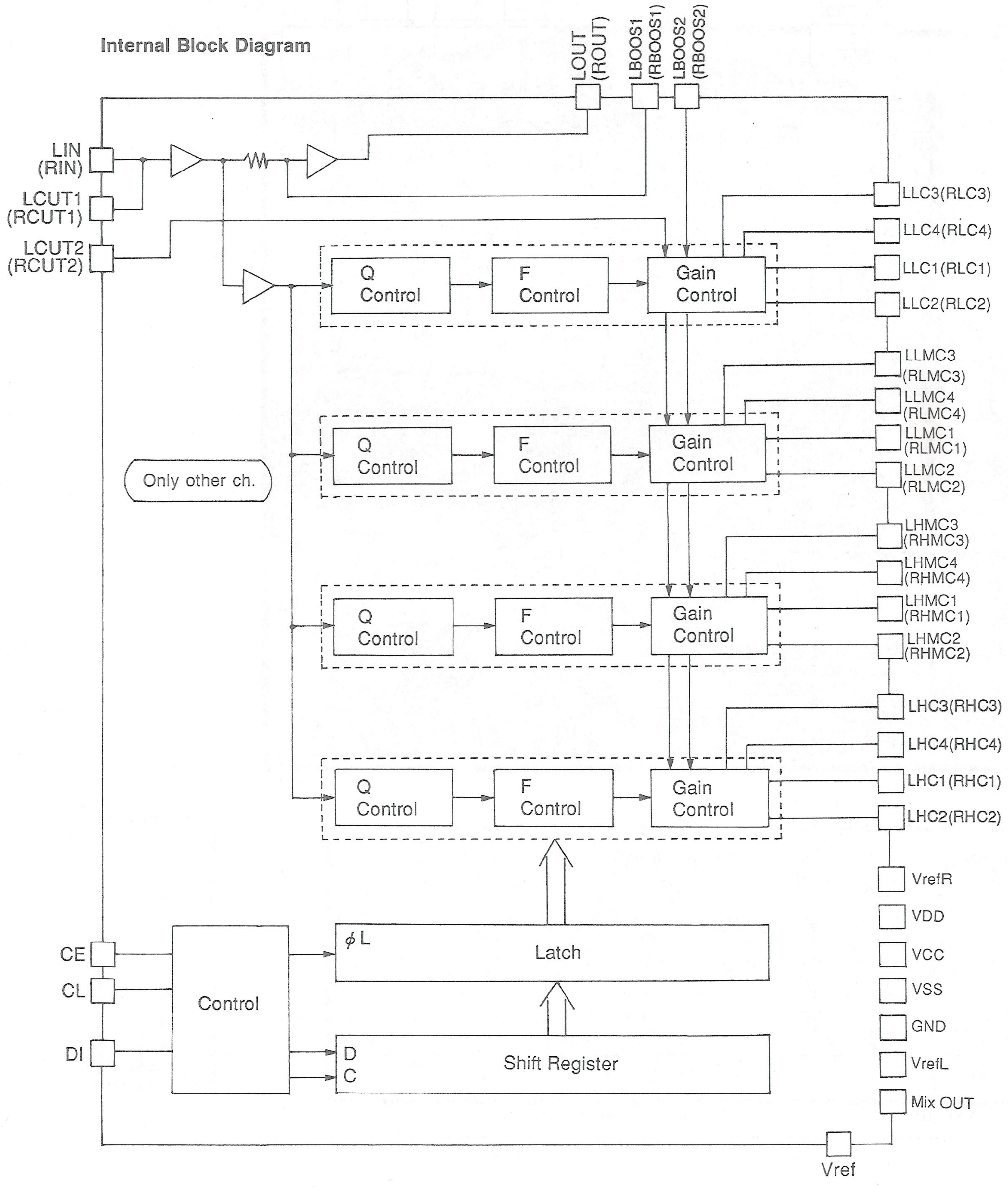
*C^2B (Computer Control Bus)

Pin Layout


LV3100M
1 LLC2
2 LLC1
3 LLC4
4 LLC3
5 LLMC2
6 LLMC1
7 LLMC4
8 LLMC3
9 LHMC2
10 LHMC1
11 LHMC4
12 LHMC3
13 LHC2
14 LHC1
15 NC
16 NC
17 NC
18 Vref
19 LHC4
20 LHC3
21 GND
22 VCC
23 VrefR
24 CL
25 VSS
26 DI
27 CE
28 VDD
29 RHC3
30 RHC4
31 NC
32 NC
33 NC
34 NC
35 RHC1
36 RHC2
37 RHMC3
38 RHMC4
39 RHMC1
40 RHMC2
41 RLMC3
42 RLMC4
43 RLMC1
44 RLMC2
45 RLC3
46 RLC4
47 RLC1
48 RLC2
49 RBOOS1
50 RBOOS2
51 RCUT1
52 RCUT2
53 RIN
54 NC
55 ROUT
56 MIXOUT
57 VrefL
58 LOUT
59 NC
60 LIN
61 LCUT2
62 LCUT1
63 LBOOS2
64 LBOOS1

CIRCUIT DESCRIPTION

Internal Block Diagram


LOUT
(ROUT)
LBOOS1
(RBOOS1)
LBOOS2
(RBOOS2)
LIN
(RIN)
LCUT1
(RCUT1)
LCUT2
(RCUT2)
Q Control
F Control
Gain Control
Only other ch.
LLC3(RLC3)
LLC4(RLC4)
LLC1(RLC1)
LLC2(RLC2)
LLMC3
(RLMC3)
LLMC4
(RLMC4)
LLMC1
(RLMC1)
LLMC2
(RLMC2)
LHMC3
(RHMC3)
LHMC4
(RHMC4)
LHMC1
(RHMC1)
LHMC2
(RHMC2)
LHC3(RHC3)
LHC4(RHC4)
LHC1(RHC1)
LHC2(RHC2)
VrefR
VDD
VCC
VSS
GND
VrefL
Mix OUT
Vref
CE
CL
DI
Control
ϕL
Latch
D
C
Shift Register

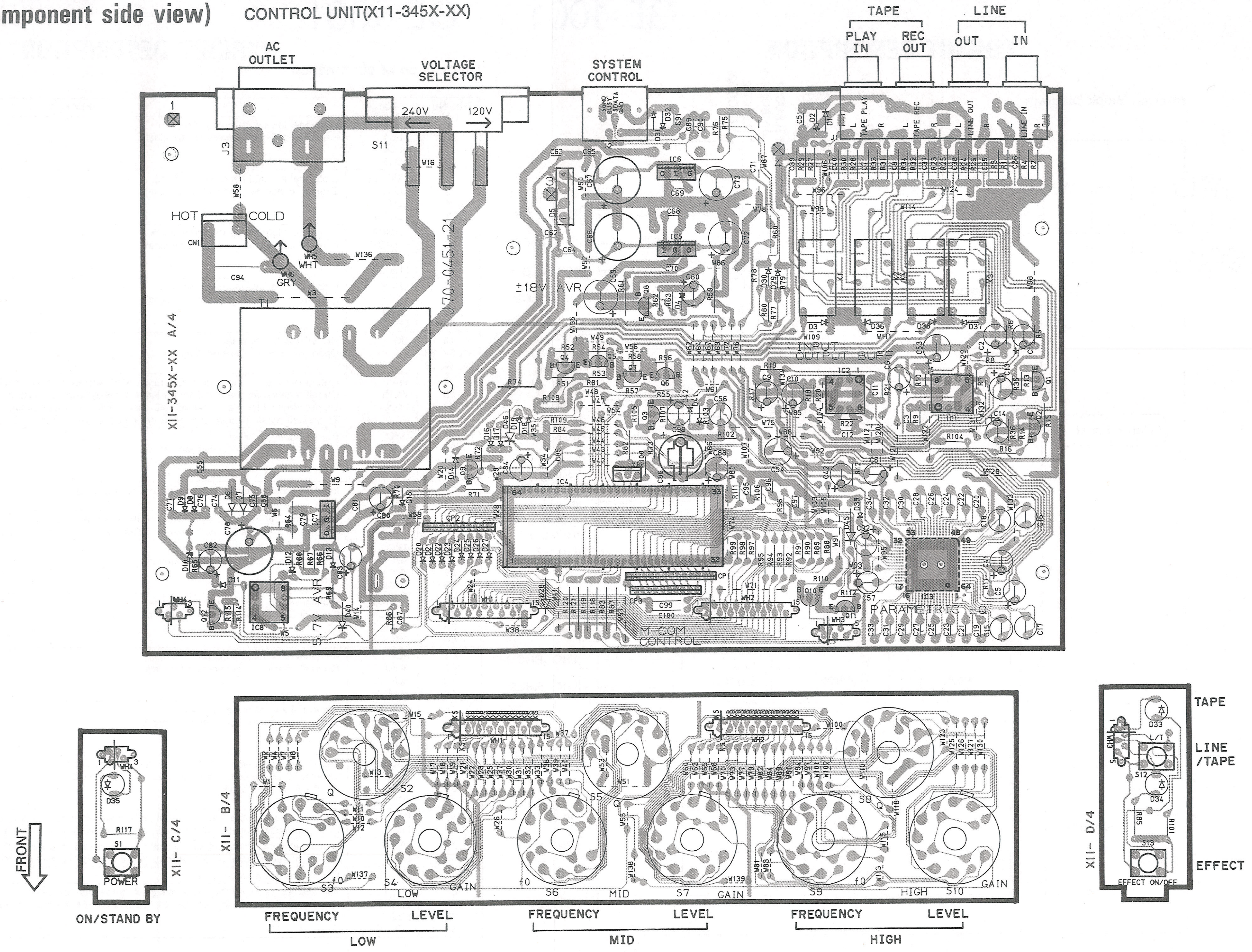
CIRCUIT DESCRIPTION

Description of pin function

Pin No.	Name	Function
1 2 3 4	LLC2 LLC1 LLC4 LLC3	L channel low band control block. External condensor connection terminal.
5 6 7 8	LLMC2 LLMC1 LLMC4 LLMC3	L channel low mid band control block. External condensor connection terminal.
9 10 11 12	LHMC2 LHMC1 LHMC4 LHMC3	L channel high mid band control block. External condensor connection terminal.
13 14 19 20	LHC2 LHC1 LHC4 LHC3	L channel high band control block. External condensor connection terminal.
15, 16, 17 31, 32, 33 34, 54, 59	NC	NO CONNECT terminal. Open or connect to Vss or GND.
18 23 57	Vref VrefR VrefL	Output terminal for the internal Operation AMP reference voltage oscillator circuit. Output terminal for the R channel reference voltage oscillator circuit. Output terminal for the L channel reference voltage oscillator circuit. To prevent ripple, connect a condensor rated at around 20 μF — 50 μF (the exact rating isn't all that critical).
21 22 25 28	GND Vcc Vss V_{DD}	Power supply terminal. Connect the specified power supply.
24 26	CL DI	Input terminal for control serial data and for the clock.
27	CE	Chip enable terminal. Data is written to the internal latch depending on the timing of switching from H to L, and the internal analog switch moves accordingly. Data transfers are enabled when the level is H.
29 30 35 36	RHC3 RHC4 RHC1 RHC2	R channel high band control block. External condensor connection terminal.
37 38 39 40	RHMC3 RHMC4 RHMC1 RHMC2	R channel high mid band control block. External condensor connection terminal.
41 42 43 44	RLMC3 RLMC4 RLMC1 RLMC2	R channel low mid band control block. External condensor connection terminal.
45 46 47 48	RLC3 RLC4 RLC1 RLC2	R channel low band control block. External condensor connection terminal.
49 50 51 52	RBOOS1 RBOOS2 RCUT1 RCUT2	Terminal for removing DC offset voltage from the internal filter. Insert a 10 μF condensor between 52↔51 and 50↔49 (for the R channel block).
53 60	RIN LIN	R channel audio signal input terminal (to be received at low impedance) L channel audio signal input terminal (to be received at low impedance)
55 58	ROUT LOUT	R channel audio signal output terminal (to be received at low impedance) L channel audio signal output terminal (to be received at low impedance)
56	MIXOUT	L + R aggregate output terminal
61 62 63 64	LCUT2 LCUT1 LBOOS2 LBOOS1	Terminal for removing DC offset voltage from the internal filter. Insert a 10 μF condensor between 61↔62 and 63↔64 (for the L channel block).

PC BOARD (Component side view)

CONTROL UNIT(X11-345X-XX)


TAPE
PLAY IN
REC OUT
LINE
OUT
IN
AC OUTLET
VOLTAGE SELECTOR
SYSTEM CONTROL
240V
120V
S11
J3
HOT
COLD
CN1
WHT
GRY
T1
J70-0451-21
±18V AVR
5.7V AVR
X11-345X-XX A/4
IC4
IC6
IC5
IC2
IC1
IC3
IC8
K1
K2
K3
INPUT
OUTPUT BUFF
PARAMETRIC EQ
M-COM CONTROL
FRONT
POWER
S1
D35
R117
X11- C/4
ON/STAND BY
X11- B/4
S2
S3
S4
S5
S6
S7
S8
S9
S10
Q
f0
GAIN
LOW
MID
HIGH
FREQUENCY
LEVEL
FREQUENCY
LEVEL
FREQUENCY
LEVEL
LOW
MID
HIGH
TAPE
LINE /TAPE
EFFECT
D33
D34
S12
S13
L/T
EFFECT ON/OFF
X11- D/4

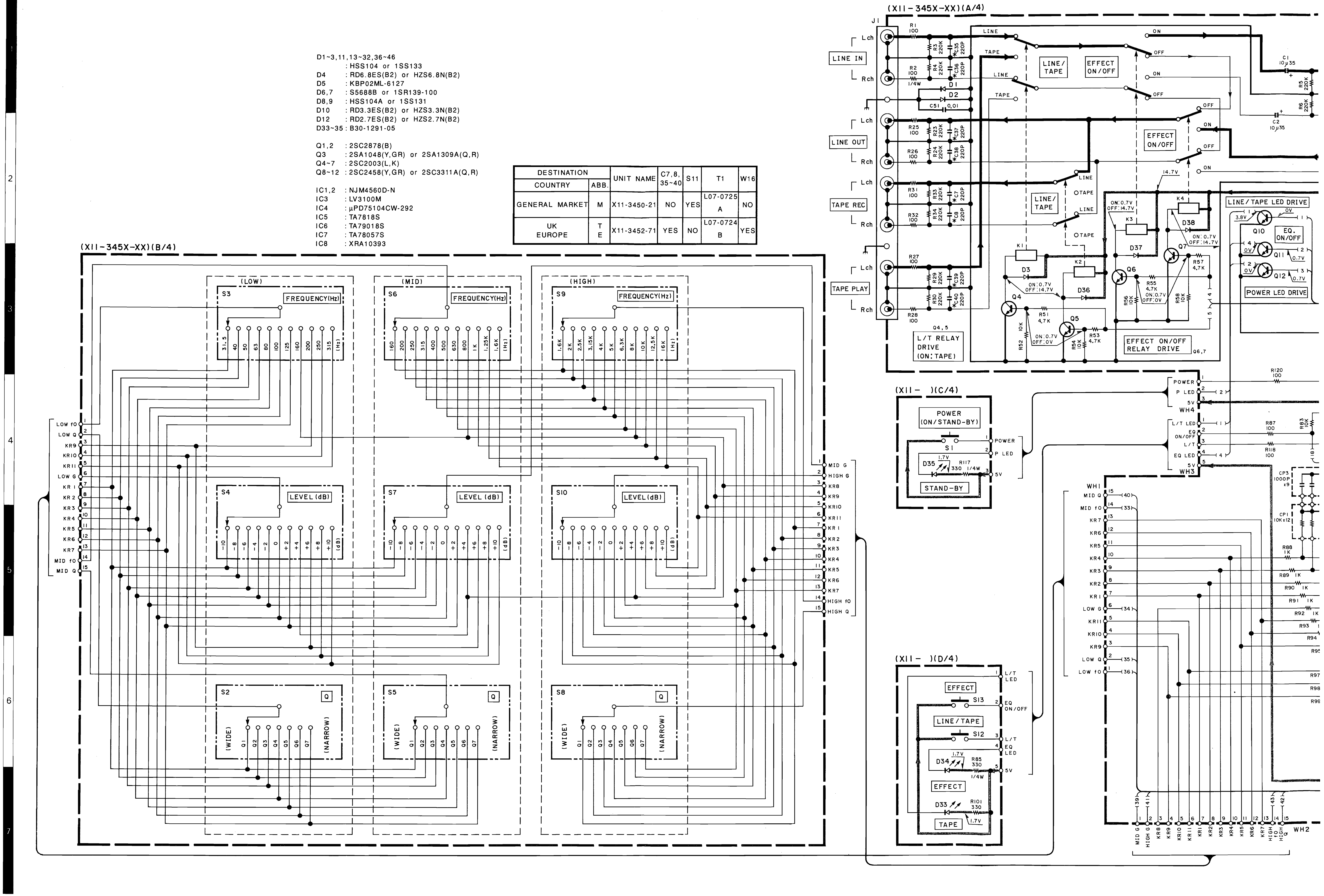
Refer to the schematic diagram for the values of resistors and capacitors.

D1~3,11,13~32,36~46
: HSS104 or 1SS133
D4 : RD6.8ES(B2) or HZS6.8N(B2)
D5 : KBP02ML-6127
D6,7 : S5688B or 1SR139-100
D8,9 : HSS104A or 1SS131
D10 : RD3.3ES(B2) or HZS3.3N(B2)
D12 : RD2.7ES(B2) or HZS2.7N(B2)
D33~35 : B30-1291-05

Q1,2 : 2SC2878(B)
Q3 : 2SA1048(Y,GR) or 2SA1309A(Q,R)
Q4~7 : 2SC2003(L,K)
Q8~12 : 2SC2458(Y,GR) or 2SC3311A(Q,R)

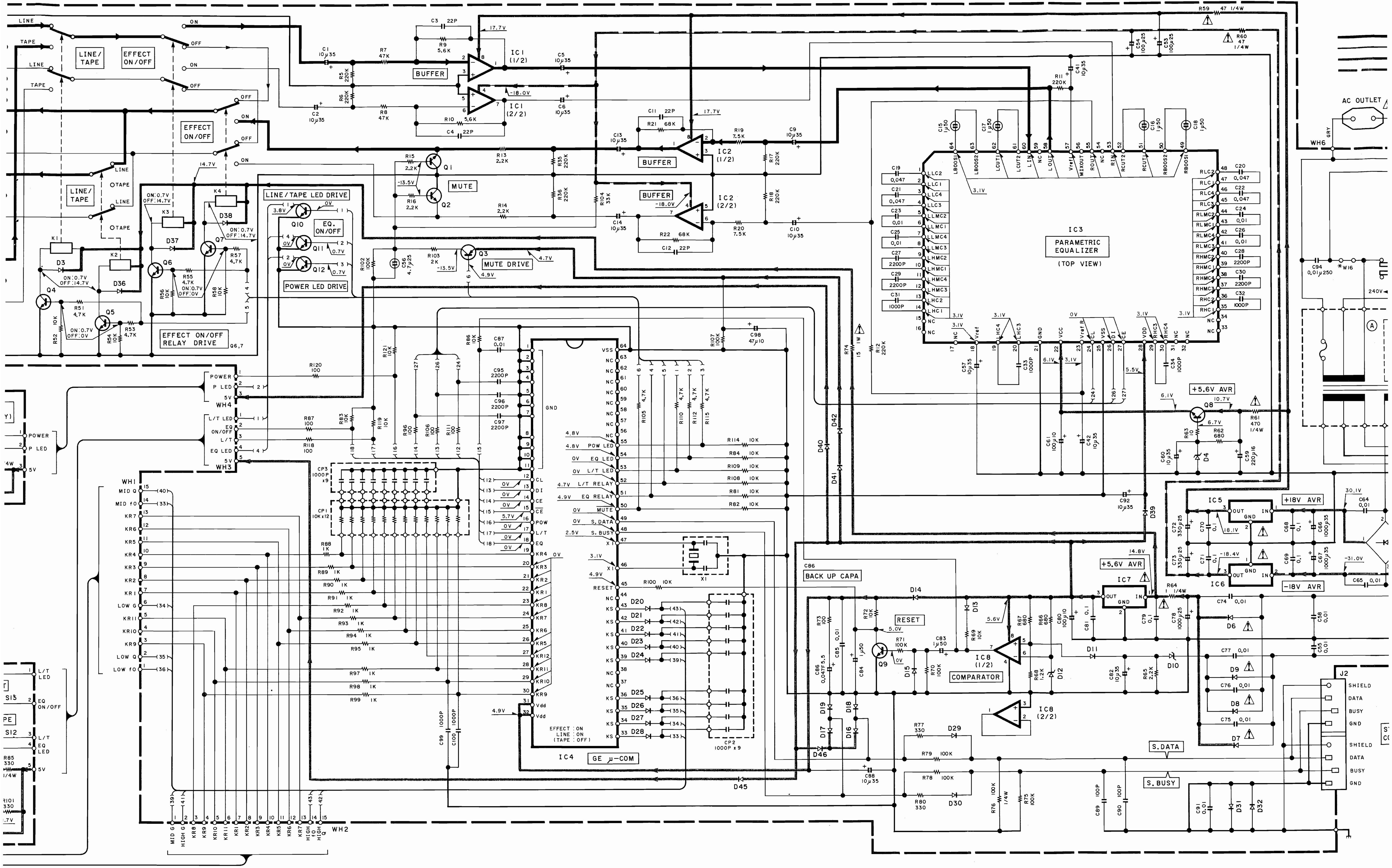
IC1,2 : NJM4560D-N
IC3 : LV3100M
IC4 : µPD75104CW-292
IC5 : TA7818S
IC6 : TA79018S
IC7 : TA78057S
IC8 : XRA10393

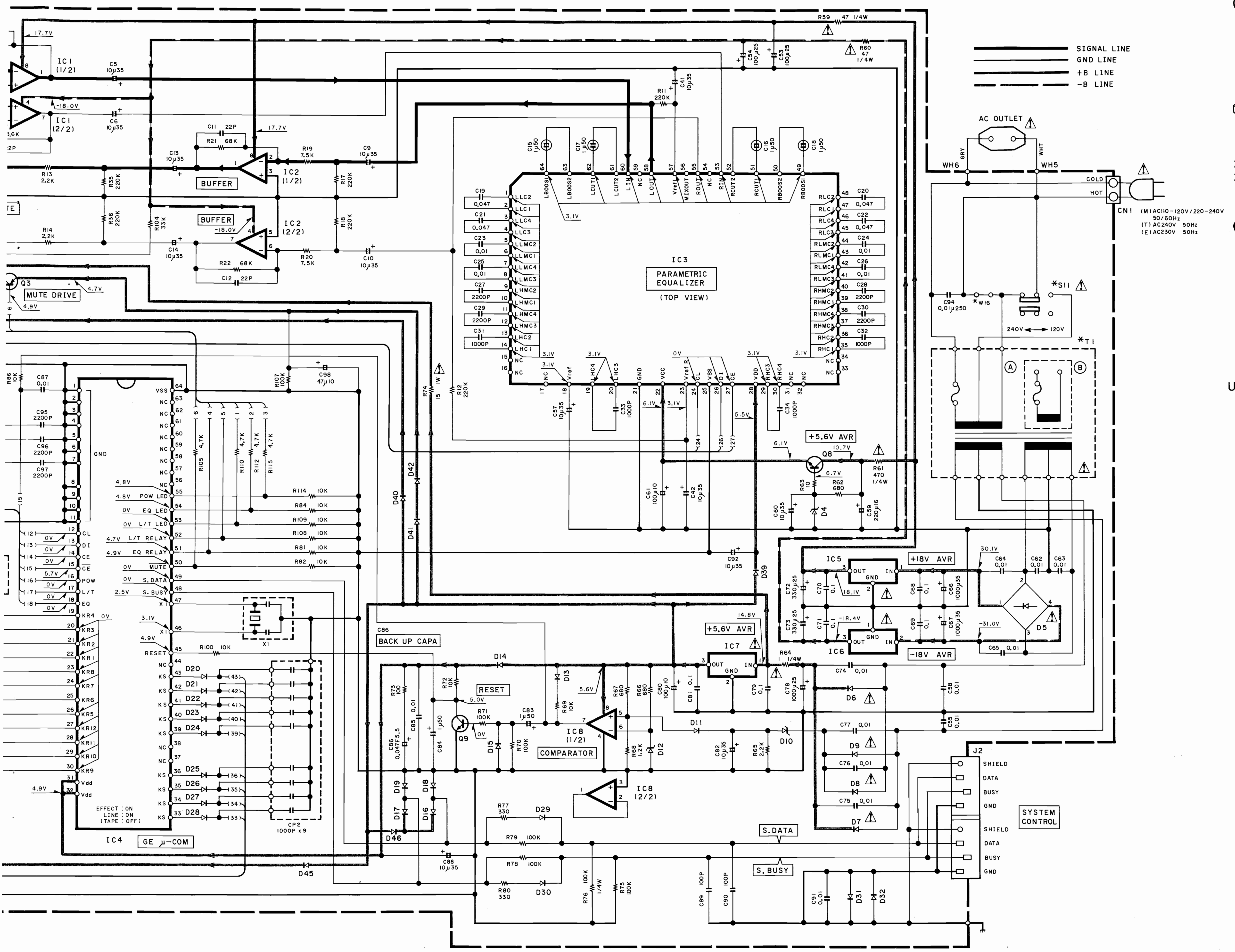
DESTINATION		UNIT NAME	C7,8, 35~40	S11	T1	W16
COUNTRY	ABB.					
GENERAL MARKET	M	X11-3450-21	NO	YES	L07-0725 A	NO
UK EUROPE	T E	X11-3452-71	YES	NO	L07-0724 B	YES

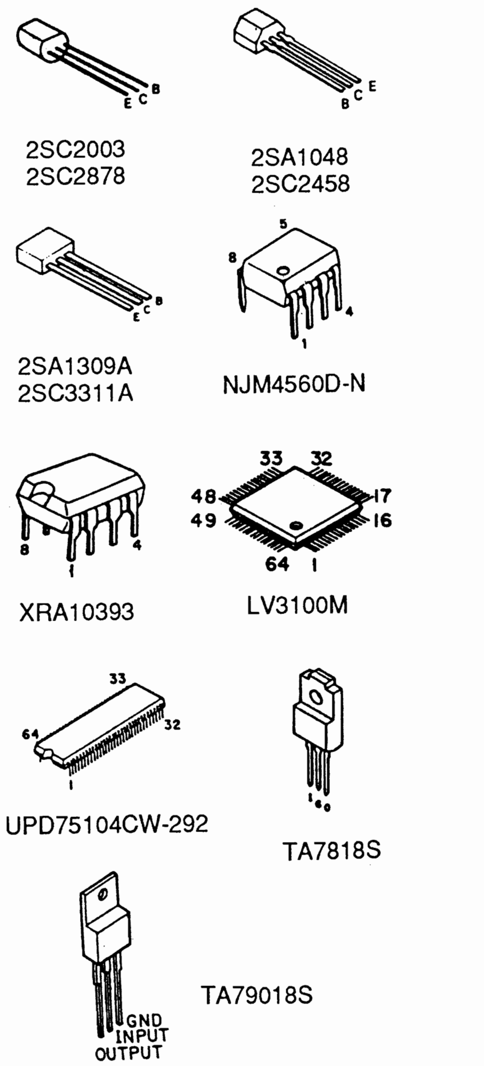


(X11-345X-XX)(A/4)
(X11-345X-XX)(B/4)
(X11-)(C/4)
(X11-)(D/4)
J1
LINE IN
LINE OUT
TAPE REC
TAPE PLAY
Lch
Rch
LINE/TAPE
EFFECT ON/OFF
L/T RELAY DRIVE (ON:TAPE)
EFFECT ON/OFF RELAY DRIVE
LINE/TAPE LED DRIVE
POWER LED DRIVE
EQ. ON/OFF
(LOW)
(MID)
(HIGH)
FREQUENCY(Hz)
LEVEL(dB)
Q
(WIDE)
(NARROW)
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S12
S13
POWER (ON/STAND-BY)
STAND-BY
EFFECT
LINE/TAPE
TAPE
WH1
WH2
WH3
WH4
LOW f0
LOW Q
LOW G
MID G
MID f0
MID Q
HIGH G
HIGH f0
HIGH Q

/4)


LINE
TAPE
LINE
TAPE
LINE/TAPE
EFFECT ON/OFF
ON
OFF
EFFECT ON/OFF
LINE/TAPE
EFFECT ON/OFF RELAY DRIVE
Q6,7
K1
K2
K3
K4
D3
D36
D37
D38
Q4
Q5
Q6
Q7
R51 4.7K
R52 10K
R53 4.7K
R54 10K
R55 4.7K
R56 10K
R57 4.7K
R58 10K
ON:0.7V OFF:14.7V
14.7V
C1 10μ35
C2 10μ35
R5 220K
R6 220K
R7 47K
R8 47K
C3 22P
R9 5.6K
R10 5.6K
C4 22P
17.7V
-18.0V
IC1 (1/2)
IC1 (2/2)
BUFFER
C5 10μ35
C6 10μ35
Q1
Q2
R15 2.2K
R16 2.2K
-13.5V
MUTE
R13 2.2K
R14 2.2K
R35 220K
R36 220K
R104 33K
LINE/TAPE LED DRIVE
EQ. ON/OFF
POWER LED DRIVE
Q10
Q11
Q12
3.8V
0.7V
Q3
MUTE DRIVE
R103 2K
4.7V
4.9V
C56 4.7μ25
R102 10K
C11 22P
R21 68K
IC2 (1/2)
IC2 (2/2)
C13 10μ35
C14 10μ35
R19 7.5K
R20 7.5K
C9 10μ35
C10 10μ35
R17 220K
R18 220K
R22 68K
C12 22P
IC3
PARAMETRIC EQUALIZER
(TOP VIEW)
LBOOS1
LBOOS2
LCUT1
LCUT2
LIN
NC
LOUT
Vref
MIXOUT
ROUT
RIN
RCUT2
RCUT1
RBOOS2
RBOOS1
LLC2
LLC1
LLC4
LLC3
LLMC2
LLMC1
LLMC4
LLMC3
LHMC2
LHMC1
LHMC4
LHMC3
LHC2
LHC1
RLC2
RLC1
RLC4
RLC3
RLMC2
RLMC1
RLMC4
RLMC3
RHMC2
RHMC1
RHMC4
RHMC3
RHC2
RHC1
LHC4
LHC3
GND
VCC
CL
VSS
DI
CE
VDD
RHC4
C15 1μ50
C17 1μ50
C16 1μ50
C18 1μ50
C19 0.047
C21 0.047
C23 0.01
C25 0.01
C27 2200P
C29 2200P
C31 1000P
C20 0.047
C22 0.047
C24 0.01
C26 0.01
C28 2200P
C30 2200P
C32 1000P
C33 1000P
C34 1000P
C57 10μ35
3.1V
R11 220K
C41 10μ35
C54 100μ25
C53 100μ25
R59 47 1/4W
R60 47 1/4W
AC OUTLET
GRY
WH6
C94 0.01μ250
*W16
240V
+5.6V AVR
Q8
R61 470 1/4W
R62 680
R63 10
D4
C59 220μ16
C60 10μ35
C61 100μ10
C42 10μ35
6.1V
10.7V
6.7V
5.5V
POWER
P LED
5V
WH4
L/T LED
EQ ON/OFF
L/T
EQ LED
WH3
R120 100
R87 100
R118 100
R83 10K
R119 10K
R121 10K
R86 10K
C87 0.01
C95 2200P
C96 2200P
C97 2200P
R96 100
R106 100
R111 100
GND
IC4
GE μ-COM
VSS
NC
POW LED
EQ LED
L/T LED
L/T RELAY
EQ RELAY
MUTE
S.DATA
S.BUSY
X
RESET
KS
CL
DI
CE
POW
L/T
EQ
KR1
KR2
KR3
KR4
KR5
KR6
KR7
KR8
KR9
KR10
KR11
KR12
Vdd
EFFECT : ON
LINE : ON
(TAPE : OFF)
CP3 1000P x9
CP1 10K x12
CP2 1000P x 9
R88 1K
R89 1K
R90 1K
R91 1K
R92 1K
R93 1K
R94 1K
R95 1K
R97 1K
R98 1K
R99 1K
R100 10K
R105 4.7K
R110 4.7K
R112 4.7K
R115 4.7K
R114 10K
R84 10K
R109 10K
R108 10K
R81 10K
R82 10K
R107 100K
C98 47μ10
X1
D20
D21
D22
D23
D24
D25
D26
D27
D28
D45
C99 1000P
C100 1000P
WH1
MID Q
MID f0
KR7
KR6
KR5
KR4
KR3
KR2
KR1
LOW G
KR11
KR10
KR9
LOW Q
LOW f0
WH2
MID G
HIGH G
KR8
HIGH f0
HIGH Q
S13
S12
L/T LED
EQ ON/OFF
EQ LED
R85 330 1/4W
R101 330
R74 15 1W
R12 220K
D40
D41
D42
D39
C92 10μ35
C86
BACK UP CAPA
D14
D13
D46
D16
D17
D18
D19
D15
R73 100
C85 0.01
C86 0.047F5.5
C84 1μ50
R72 10K
5.0V
RESET
Q9
R71 100K
C83 1μ50
R69 10K
R70 100K
IC8 (1/2)
IC8 (2/2)
COMPARATOR
R67 680
R66 680
R68 1.2K
D12
D11
D10
C80 100μ10
C81 0.1
C82 10μ35
R65 2.2K
IC7
+5.6V AVR
14.8V
R64 10 1/4W
C79 0.1
C78 1000μ25
IC5
+18V AVR
IC6
-18V AVR
OUT
IN
GND
18.1V
-18.4V
30.1V
-31.0V
C72 330μ25
C73 330μ25
C70 0.1
C71 0.1
C68 0.1
C69 0.1
C66 1000μ35
C67 1000μ35
C64 0.01
C65 0.01
C74 0.01
D6
C58 0.01
C55 0.01
C77 0.01
D9
C76 0.01
D8
C75 0.01
D7
J2
SHIELD
DATA
BUSY
GND
S.DATA
S.BUSY
R77 330
D29
R79 100K
R78 100K
R80 330
D30
R76 100K 1/4W
R75 100K
C88 10μ35
C89 100P
C90 100P
C91 0.01
D31
D32
Ⓐ


SIGNAL LINE
GND LINE
+B LINE
–B LINE
IC1 (1/2)
IC1 (2/2)
IC2 (1/2)
IC2 (2/2)
BUFFER
BUFFER
IC3
PARAMETRIC EQUALIZER
(TOP VIEW)
Q3
MUTE DRIVE
IC4
GE µ-COM
EFFECT : ON
LINE : ON
(TAPE : OFF)
CP2
1000P x 9
X1
BACK UP CAPA
RESET
Q9
IC8 (1/2)
COMPARATOR
IC8 (2/2)
IC7
+5.6V AVR
Q8
+5.6V AVR
IC5
+18V AVR
IC6
-18V AVR
D5
AC OUTLET
WH6
WH5
GRY
WHT
COLD
HOT
CN1
(M) AC110-120V/220-240V 50/60Hz
(T) AC240V 50Hz
(E) AC230V 50Hz
*S11
*W16
*T1
240V ↔ 120V
J2
SHIELD
DATA
BUSY
GND
SYSTEM CONTROL
S.DATA
S.BUSY


2SC2003
2SC2878
2SA1048
2SC2458
2SA1309A
2SC3311A
NJM4560D-N
XRA10393
LV3100M
UPD75104CW-292
TA7818S
TA79018S
GND
INPUT
OUTPUT

DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

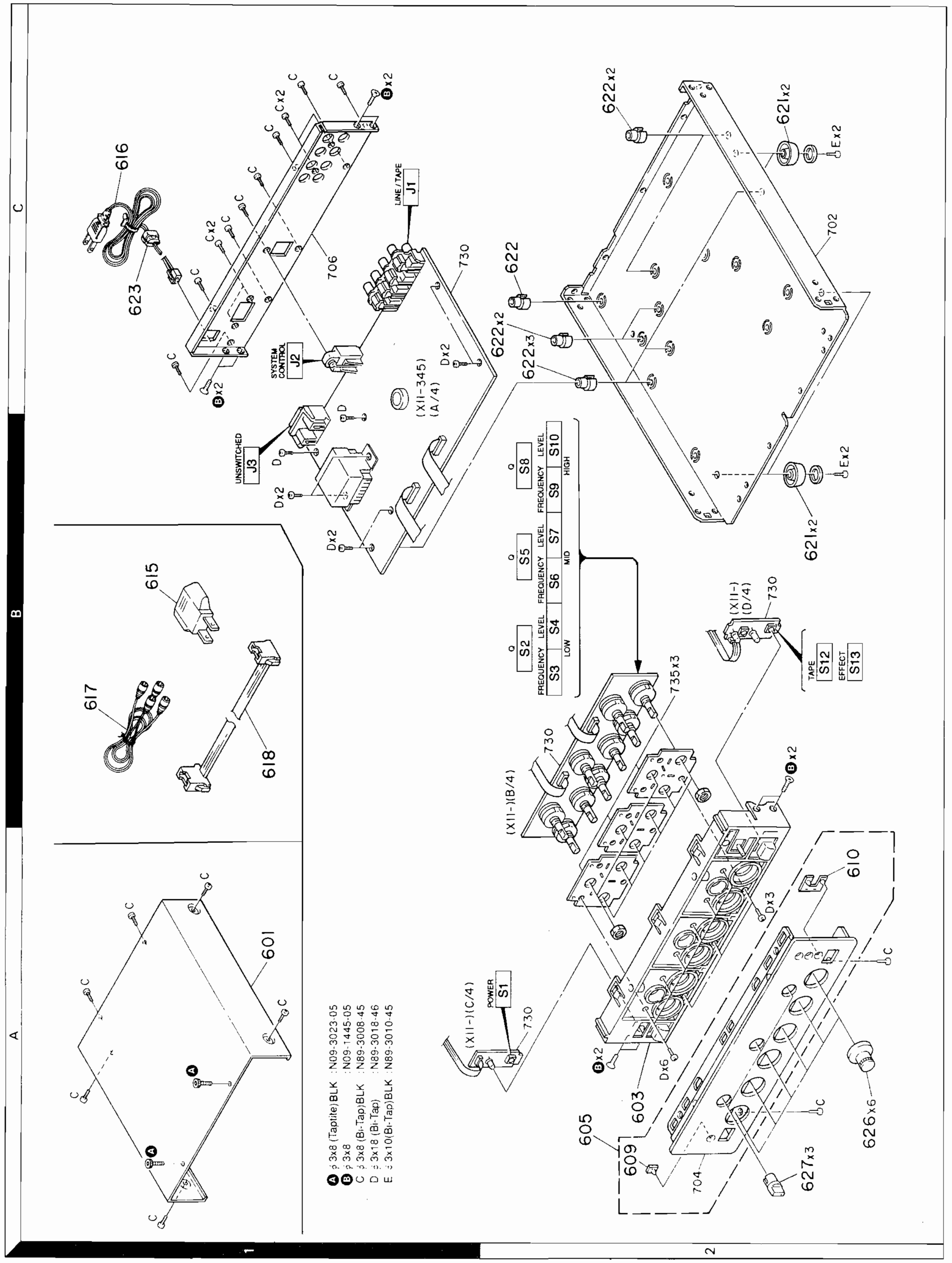
Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U.geringfügig.

CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list) ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

GE-1001

KENWOOD

EXPLODED VIEW (UNIT)


616
623
706
Cx2
C
Bx2
LINE/TAPE
J1
SYSTEM CONTROL
J2
UNSWITCHED
J3
730
(X11-345)
(A/4)
Dx2
D
622
622x2
622x3
622x2
621x2
Ex2
702
S8
S10
S9
S5
S7
S6
S2
S4
S3
FREQUENCY
LEVEL
LOW
MID
HIGH
(X11-)
(D/4)
TAPE
S12
EFFECT
S13
735x3
(X11-)(B/4)
615
617
618
601
A
POWER
S1
(X11-)(C/4)
605
603
609
704
Dx6
Dx3
610
626x6
627x3
C
B
A
1
2

Ⓐ φ3x8 (Taptite) BLK : N09-3023-05
Ⓑ φ3x8 : N09-1445-05
C φ3x8 (Bi-Tap)BLK : N89-3008-45
D φ3x18 (Bi-Tap) : N89-3018-46
E φ3x10(Bi-Tap)BLK : N89-3010-45

Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

UNIT LIST

Destination		CONTROL UNIT
JAPAN MADE	M	X11-3450-21
	T	X11-3452-71
	E	X11-3452-71

PARTS LIST

NIT LIST

Destination		CONTROL UNIT
JAPAN MADE	M	X11-3450-21
	T	X11-3452-71
	E	X11-3452-71

PARTS LIST

⁎ New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti-nation 仕向	Re-marks 備考
GE-1001						
601	1A	⁎	A01-3048-01	METALLIC CABINET		
603	2A	⁎	A22-1640-11	SUB PANEL		
605	2A	⁎	A60-0475-02	PANEL ASSY		
609	2A		B12-0136-04	INDICATOR		
610	2A	⁎	B12-0227-04	INDICATOR		
-			B46-0310-03	WARRANTY CARD	TE	
-		⁎	B60-1230-00	INSTRUCTION MANUAL (EN)		
-		⁎	B60-1231-00	INSTRUCTION MANUAL (F/G/N/I)	E	
-		⁎	B60-1232-00	INSTRUCTION MANUAL (SP)	ME	
-		⁎	B60-1234-00	INSTRUCTION MANUAL (C)	M	
⚠ 615	1B		E03-0115-05	AC PLUG ADAPTER	M	
⚠ 616	1C		E30-2592-15	AC POWER CORD	ME	
⚠ 616	1C		E30-2602-05	AC POWER CORD	T	
617	1B		E30-2600-05	CORD WITH PLUG		
618	1B		E30-2628-05	CORD WITH CONNECTOR		
⚠ J3	1B		E03-0055-05	AC OUTLET	ME	
⚠ J3	1B		E03-0085-05	AC OUTLET	T	
		⁎	H50-0698-04	ITEM CARTON CASE	ME	
		⁎	H50-0842-04	ITEM CARTON CASE	T	
-		⁎	H10-5534-02	POLYSTYRENE FOAMED FIXTURE L		
-		⁎	H10-5535-02	POLYSTYRENE FOAMED FIXTURE R		
-		⁎	H12-2169-04	PACKING FIXTURE	T	
-			H25-0232-04	PROTECTION BAG (235X350X0.03)	ME	
-			H25-0397-04	PROTECTION BAG	ME	
-			H25-0651-04	PROTECTION BAG (0232 PRINTED)	T	
-			H25-0659-04	PROTECTION BAG (0397 PRINTED)	T	
621	2B,2C		J02-0127-05	FOOT		
622	2C	⁎	J19-3609-04	UNIT HOLDER		
⚠ 623	1C		J42-0083-05	POWER CORD BUSHING		
626	2A	⁎	K29-5757-04	KNOB FREQUENCY/LEVEL		
627	2A	⁎	K29-5758-14	KNOB WIDE/NARROW		
A	1A	⁎	N09-3023-05	MACHINE SCREW (3 X 8)		
B	2A,2B		N09-1445-05	FLAT HEAD SET SCREW (M3X8)		
C	1A,1C		N89-3008-45	BINDING HEAD TAPTITE SCREW		
D	2A,1B	⁎	N89-3018-46	BINDING HEAD TAPTITE SCREW		
E	2B,2C		N89-3010-45	BINDING HEAD TAPTITE SCREW		
CONTROL UNIT(X11-3450-21:M,2-71:T,E)						
D33 -35			B30-1290-05	LED LN21RCALSLX(U)-(TA4)		
C1 ,2			CE04KW1V100M	ELECTRO 10UF 35WV		
C3 ,4			CC45FSL1H220J	CERAMIC 22PF J		
C5 ,6			CE04KW1V100M	ELECTRO 10UF 35WV		
C7 ,8			C91-0749-05	CERAMIC 220PF K	TE	
C9 ,10			CE04KW1V100M	ELECTRO 10UF 35WV		
C11 ,12			CC45FSL1H220J	CERAMIC 22PF J		
C13 ,14			CE04KW1V100M	ELECTRO 10UF 35WV		
C15 -18			CE04HW1H010M	NP-ELEC 1.0UF 50WV		
C19 -22			CF92FV1H473J	MF 0.047UF J		
C23 -26			CF92FV1H103J	MF 0.010UF J		
C27 -30			CF92FV1H222J	MF 2200PF J		
C31 -34			CF92FV1H102J	MF 1000PF J		

L:Scandinavia	**K:**USA	**P:**Canada
Y:PX(Far East, Hawaii)	**T:**England	**E:**Europe
Y:AAFES(Europe)	**X:**Australia	**M:**Other Areas

⚠ indicates safety critical components.

⁎ New Parts
Parts without
Les articles n
Teile ohne Par

Ref. No. 参照番号
C35 -40
C41 ,42
C51
C53 ,54
C55
C56
C57
C58
C59
C60
C61
C62 -65
C66 ,67
C68 -71
C72 ,73
C74 -77
C78
C79
C80
C81
C82
C83 ,84
C85
C86
C87
C88
C89 ,90
C91
C92
C94
C95 -97
C98
C99 ,100
J1
J2
⚠ T1
⚠ T1
X1
CP1
CP2 ,3
⚠ R59 ,60
⚠ R61
⚠ R64
⚠ R74
K1 -4
S1
S2
S3 ,4
S5
S6 ,7
S8
S9 ,10
⚠ S11

L:Scandin
Y:PX(Far
Y:AAFES

PARTS LIST

⁎ New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti-nation 仕向	Re-marks 備考
GE-1001						
601	1A	*	A01-3048-01	METALLIC CABINET		
603	2A	*	A22-1640-11	SUB PANEL		
605	2A	*	A60-0475-02	PANEL ASSY		
609	2A		B12-0136-04	INDICATOR		
610	2A	*	B12-0227-04	INDICATOR		
-			B46-0310-03	WARRANTY CARD	TE	
-		*	B60-1230-00	INSTRUCTION MANUAL (EN)		
-		*	B60-1231-00	INSTRUCTION MANUAL (F/G/N/I)	E	
-		*	B60-1232-00	INSTRUCTION MANUAL (SP)	ME	
-		*	B60-1234-00	INSTRUCTION MANUAL (C)	M	
⚠ 615	1B		E03-0115-05	AC PLUG ADAPTER	M	
⚠ 616	1C		E30-2592-15	AC POWER CORD	ME	
⚠ 616	1C		E30-2602-05	AC POWER CORD	T	
617	1B		E30-2600-05	CORD WITH PLUG		
618	1B		E30-2628-05	CORD WITH CONNECTOR		
⚠ J3	1B		E03-0055-05	AC OUTLET	ME	
⚠ J3	1B		E03-0085-05	AC OUTLET	T	
		*	H50-0698-04	ITEM CARTON CASE	ME	
		*	H50-0842-04	ITEM CARTON CASE	T	
-		*	H10-5534-02	POLYSTYRENE FOAMED FIXTURE L		
-		*	H10-5535-02	POLYSTYRENE FOAMED FIXTURE R		
-		*	H12-2169-04	PACKING FIXTURE	T	
-			H25-0232-04	PROTECTION BAG (235X350X0.03)	ME	
-			H25-0397-04	PROTECTION BAG	ME	
-			H25-0651-04	PROTECTION BAG (0232 PRINTED)	T	
-			H25-0659-04	PROTECTION BAG (0397 PRINTED)	T	
621	2B,2C		J02-0127-05	FOOT		
622	2C	*	J19-3609-04	UNIT HOLDER		
⚠ 623	1C		J42-0083-05	POWER CORD BUSHING		
626	2A	*	K29-5757-04	KNOB FREQUENCY/LEVEL		
627	2A	*	K29-5758-14	KNOB WIDE/NARROW		
A	1A	*	N09-3023-05	MACHINE SCREW (3 X 8)		
B	2A,2B		N09-1445-05	FLAT HEAD SET SCREW (M3X8)		
C	1A,1C		N89-3008-45	BINDING HEAD TAPTITE SCREW		
D	2A,1B	*	N89-3018-46	BINDING HEAD TAPTITE SCREW		
E	2B,2C		N89-3010-45	BINDING HEAD TAPTITE SCREW		
CONTROL UNIT(X11-3450-21:M,2-71:T,E)						
D33 -35			B30-1290-05	LED LN21RCALSLX(U)-(TA4)		
C1 ,2			CE04KW1V100M	ELECTRO 10UF 35WV		
C3 ,4			CC45FSL1H220J	CERAMIC 22PF J		
C5 ,6			CE04KW1V100M	ELECTRO 10UF 35WV		
C7 ,8			C91-0749-05	CERAMIC 220PF K	TE	
C9 ,10			CE04KW1V100M	ELECTRO 10UF 35WV		
C11 ,12			CC45FSL1H220J	CERAMIC 22PF J		
C13 ,14			CE04KW1V100M	ELECTRO 10UF 35WV		
C15 -18			CE04HW1H010M	NP-ELEC 1.0UF 50WV		
C19 -22			CF92FV1H473J	MF 0.047UF J		
C23 -26			CF92FV1H103J	MF 0.010UF J		
C27 -30			CF92FV1H222J	MF 2200PF J		
C31 -34			CF92FV1H102J	MF 1000PF J		

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PARTS LIST

⁎ New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti-nation 仕向	Re-marks 備考
C35 -40			C91-0749-05	CERAMIC 220PF K	TE	
C41 ,42			CE04KW1V100M	ELECTRO 10UF 35WV		
C51			CK45FF1H103Z	CERAMIC 0.010UF Z		
C53 ,54			CE04KW1E101M	ELECTRO 100UF 25WV		
C55			CK45FF1H103Z	CERAMIC 0.010UF Z		
C56			CE04HW1E4R7M	NP-ELEC 4.7UF 25WV		
C57			CE04KW1V100M	ELECTRO 10UF 35WV		
C58			CK45FF1H103Z	CERAMIC 0.010UF Z		
C59			CE04KW1C221M	ELECTRO 220UF 16WV		
C60			CE04KW1V100M	ELECTRO 10UF 35WV		
C61			CE04KW1A101M	ELECTRO 100UF 10WV		
C62 -65			CK45FF1H103Z	CERAMIC 0.010UF Z		
C66 ,67			CE04KW1V102M	ELECTRO 1000UF 35WV		
C68 -71			CF92FV1H104J	MF 0.10UF J		
C72 ,73			CE04DW1E331M	ELECTRO 330UF 25WV		
C74 -77			CK45FF1H103Z	CERAMIC 0.010UF Z		
C78			CE04KW1E102M	ELECTRO 1000UF 25WV		
C79			CF92FV1H104J	MF 0.10UF J		
C80			CE04KW1A101M	ELECTRO 100UF 10WV		
C81			CF92FV1H104J	MF 0.10UF J		
C82			CE04KW1V100M	ELECTRO 10UF 35WV		
C83 ,84			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C85			CF92FV1H103J	MF 0.010UF J		
C86			C90-1827-05	BACKUP 0.047F 5.5WV		
C87			CK45FF1H103Z	CERAMIC 0.010UF Z		
C88			CE04KW1V100M	ELECTRO 10UF 35WV		
C89 ,90			CC45FSL1H101J	CERAMIC 100PF J		
C91			CK45FF1H103Z	CERAMIC 0.010UF Z		
C92			CE04KW1V100M	ELECTRO 10UF 35WV		
C94			C91-1439-05	FILM 0.01UF 250VAC		
C95 -97			CK45FB1H222K	CERAMIC 2200PF K		
C98			CE04KW1A470M	ELECTRO 47UF 10WV		
C99 ,100			C91-0757-05	CERAMIC 1000PF K		
J1		*	E63-0098-05	PHONO JACK LINE/TAPE		
J2			E08-0312-05	RECTANGULAR RECEPTACLE S.CONT		
⚠ T1	1B	*	L07-0724-05	POWER TRANSFORMER	TE	
⚠ T1	1B	*	L07-0725-05	POWER TRANSFORMER	M	
X1			L78-0267-05	RESONATOR (4.194MHZ)		
CP1			R90-0906-05	MULTI-COMP 10KX12 J		
CP2 ,3		*	R90-0911-05	MULTI-COMP 1000PFX 9 M		
⚠ R59 ,60			RD14NB2E470J	RD 47 J 1/4W		
⚠ R61			RD14NB2E471J	RD 470 J 1/4W		
⚠ R64			RD14NB2E1R0J	RD 1.0 J 1/4W		
⚠ R74			RS14KB3A150J	FL-PROOF RS 15 J 1W		
K1 -4			S76-0018-05	MAGNETIC RELAY		
S1			S40-1064-05	PUSH SWITCH POWER		
S2		*	S60-0019-05	ROTARY SWITCH LOW BAND		
S3 ,4		*	S60-0020-05	ROTARY SWITCH LOW BAND		
S5		*	S60-0019-05	ROTARY SWITCH MID BAND		
S6 ,7		*	S60-0020-05	ROTARY SWITCH MID BAND		
S8		*	S60-0019-05	ROTARY SWITCH HIGH BAND		
S9 ,10		*	S60-0020-05	ROTARY SWITCH HIGH BAND		
⚠ S11			S62-0001-05	SLIDE SWITCH AC VOLTAGE SEL	M	

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S12 ,13			S40-1064-05	PUSH SWITCH LINE/TAPE,EFFECT		
D1 -3			HSS104	DIODE		
D1 -3			1SS133	DIODE		
D4			HZS6.8N(B2)	ZENER DIODE		
D4			RD6.8ES(B2)	ZENER DIODE		
⚠ D5			KBP02ML-6127	DIODE		
⚠ D6 ,7			S5688B	DIODE		
⚠ D6 ,7			1SR139-100	DIODE		
⚠ D8 ,9			HSS104A	DIODE		
⚠ D8 ,9			1SS131	DIODE		
D10			HZS3.3N(B2)	ZENER DIODE		
D10			RD3.3ES(B2)	ZENER DIODE		
D11			HSS104	DIODE		
D11			1SS133	DIODE		
D12			HZS2.7N(B2)	ZENER DIODE		
D12			RD2.7ES(B2)	ZENER DIODE		
D13 -32			HSS104	DIODE		
D13 -32			1SS133	DIODE		
D36 -42			HSS104	DIODE		
D36 -42			1SS133	DIODE		
D45 ,46			HSS104	DIODE		
D45 ,46			1SS133	DIODE		
IC1 ,2			NJM4560D-N	IC(OP AMP X2)		
IC3		*	LV3100M	CUSTOM IC		
IC4		*	UPD75104CW-292	IC(4BIT MICROPROCESSOR)		
⚠ IC5		*	TA7818S	IC(VOLTAGE REGULATOR)		
⚠ IC6		*	TA79018S	IC(VOLTAGE REGULATOR)		
⚠ IC7			TA78057S	IC(VOLTAGE REGULATOR/+5.75V)		
IC8			XRA10393	IC(DUAL COMPALATOR)		
Q1 ,2			2SC2878(B)	TRANSISTOR		
Q3			2SA1048(Y,GR)	TRANSISTOR		
Q3			2SA1309A(Q,R)	TRANSISTOR		
Q4 -7			2SC2003(L,K)	TRANSISTOR		
Q8 -12			2SC2458(Y,GR)	TRANSISTOR		
Q8 -12			2SC3311A(Q,R)	TRANSISTOR		

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GE-1001

SPECIFICATIONS

Equalizer characteristics variable range	**±10 dB**
Individual channel adjust (Hz)	
LOW	**31.5, 40, 50, 63, 80, 100, 125, 160, 200, 250, 315**
MID	**160, 200, 250, 315, 400, 500, 630, 800, 1k, 1.25k, 1.6k**
HIGH	**1.6k, 2k, 2.5k, 3.15k, 4k, 5k, 6.3k, 8k, 10k, 12.5k, 16k**
Vriable Q range	**3, 2, 1, 2/3, 1/2, 1/3, 1/4 (OCT)**
Total harmonic distortion (at 1 kHz, Flat)	**0.003 %**
Frequency response (at flat)	**10 Hz ~ 70 kHz, +0 dB, –3 dB**

General

Power consumption	**6 W**
AC outlet	
UNSWITCHED	**1 (100 W max.)**
Dimensions	**W : 270 mm (10 – 5/8")** **H : 80 mm (3 - 1/8")** **D : 328 mm (12 – 15/16")**
Weight (Net)	**3.4 kg (7.5lb)**

Note KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on the general market (M) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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